Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KENNETH A. KRIENKE, KAY Y. BLOHOWIAK,
LARRY K. OLLI, and JOSEPH H. OSBORNE

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Appeal No. 2001-1820
Application No. 09/169,280

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ON BRIEF

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Before WARREN, WALTZ, and KRATZ, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1, 3, 4, 7, 8, 17, 24 and 25.[1] Claims 9-14, 22, 23, 26 and 27 stand withdrawn from further consideration by the examiner pursuant to 37 CFR § 1.142(b)(Brief, page 2). Claims 18, 20, 21 and 28-31, the remaining claims pending in this application, stand allowed by the examiner (Brief, page 2; final

[1]Appellants' amendment after the final rejection was refused entry by the examiner (see the amendment dated Apr. 24, 2000, Paper No. 10, refused entry as per the Advisory Action dated May 3, 2000, Paper No. 11).

Office action dated Feb. 15, 2000, Paper No. 9, page 6). We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to a surface treatment or coating for metal or composite surfaces using a sol-gel film containing pigment to produce a surface coating having a suitable appearance and substrate protection properties, such as corrosion protection and adhesion promotion (Brief, pages 2-3).

Appellants state that "[e]ach claim stands separately" but only provide specific, substantive reasons for the separate patentability of claims 1, 8, 17, 24 and 25 (see the Brief, pages 6 and 7). Therefore, pursuant to the provisions of 37 CFR § 1.192(c)(7)(1997), we consider these claims to the extent they have been separately argued, with all other claims standing or falling together with claim 1. *See also In re Herbert,* 461 F.2d 1390, 1391, 174 USPQ 259, 260 (CCPA 1972). A copy of illustrative independent claims 1 and 24 is attached as an Appendix to this decision.

The examiner has relied upon the following references as evidence in support of the rejections on appeal:

Philipp et al. (Philipp)	4,746,366	May 24, 1988
Blohowiak et al. (Blohowiak) (U.S. filing date of Nov. 4, 1996)	5,849,110	Dec. 15, 1998

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Philipp (Answer, page 3). Claims 1, 3, 7, 8, 17, 24 and 25 stand rejected under 35 U.S.C. § 103(a) over Blohowiak in view of Philipp (Answer, page 4) and also under the judicially created doctrine of obviousness-type double patenting over claims 1-7 of Blohowiak in view of Philipp (Answer, page 7).

We *affirm* all of the examiner's rejections on appeal essentially for the reasons stated in the Answer and those reasons set forth below.

OPINION

A. The Rejection under § 103(a) over Philipp

The examiner finds that Philipp teaches a method of producing a zirconium (Zr)- silicon (Si) sol-gel coating on metal substrates such as aluminum and titanium, which uses a mixture of alkoxyzirconium compounds, a pigment as a colorant, acetic acid as a condensation catalyst, and an organosilane coupling agent (Answer, page 3). The examiner further finds that Philipp teaches specific examples of tetra-ethyl orthosilicate (TEOS) which is applied to a primed (cleaned and activated) substrate, and subsequently dried by heating (*id.*).

The examiner finds that Philipp fails to disclose or teach some of the claimed functional language, e.g., the orientation of

the alkoxy groups, the hydrolysis stabilization, the covalent bonding of the alkoxyzirconium to the surface, the protection from space environments, etc. (Answer, paragraph bridging pages 3-4). However, the examiner concludes that the claimed subject matter would have been obvious since Philipp teaches the process of coating with a coating solution which overlaps the composition recited in the claims, and therefore one of ordinary skill in this art would have expected the product of the reference to be the same or similar to the claimed product, including all of the noted properties (Answer, page 4). We agree.

First we must note the format of claims 1 and 24 on appeal. Claims 1 and 24 are directed to methods of applying a coating and include product-by-process limitations in reciting the composition of the sol applied. Accordingly, for the product-by-process portion of the claim, the examiner has a lesser burden of proof in presenting evidence that the prior art product reasonably appears to be the same or similar to that claimed. *See In re Fessman,* 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974); *In re Fitzgerald,* 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980). Here we determine that the examiner has met the lesser initial burden of establishing that the product sol, as well as every step of the process, is reasonably the same or similar to

the product and process of Philipp. Thus the burden of proof has shifted to appellants and they have not proferred any countervailing evidence. *See In re Best,* 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977).

Appellants argue that Philipp does not teach or suggest all the components in the claims of the present invention and does not teach the claimed ratio of those components to one another (Brief, page 6). Appellants' arguments are not persuasive since appellants do not specifically point out which component(s) is(are) not taught or suggested by Phillip. As discussed above, the examiner finds that Philipp discloses all of the components recited in claim 1 on appeal. With regard to the ratio of pigment to organometallics required by claim 1, we agree with the examiner that the amount of pigment added to the composition of Philipp would have been well within the skill in this art, as Philipp teaches that these additives are "customary" (line bridging cols. 4-5) and the function of the pigment is taught by the reference as "colorants" (col. 5, l. 2). Thus it would have been equally within the ordinary skill in this art to have added sufficient pigment to produce the desired color.

Appellants argue that Philipp does not suggest that its coating "chemically covalently bonds" to the surface but that it

is "likely" that the metals complex and crosslink without interaction with the surface in Philipp (Brief, paragraph bridging pages 6-7). However, attorney argument cannot take the place of evidence. *See In re Scarborough,* 500 F.2d 560, 566, 182 USPQ 298, 302 (CCPA 1974). Appellants have not presented any evidence to support their argument, nor shown any difference in the process steps and sol composition disclosed by Philipp. Contrary to appellants' arguments (Brief, page 7), Philipp does disclose the use of acetic acid (as a condensation catalyst), which appellants denominate as a hydrolysis rate stabilizer (see col. 4, l. 7), and teaches the improvement of adhesion, not any reduction in adhesion (col. 1, ll. 8-22).

For the foregoing reasons and those stated in the Answer, we determine that the examiner has presented a *prima facie* case of obviousness in view of the reference evidence. Based on the totality of the record, including due consideration of appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103(a). Accordingly, we affirm the examiner's rejection of the claims on appeal under 35 U.S.C. § 103(a) over Philipp.

B. The Rejections over Blohowiak in view of Philipp

Since the same claims and references are involved in each rejection, we consider the rejections under 35 U.S.C. § 103(a) and under the judicially created doctrine of obviousness-type double patenting together. Of course, although we make similar obviousness analyses, we consider the entire references in the section 103(a) rejection while we only consider the claimed subject matter of Blohowiak in the obviousness-type double patenting rejection. *See In re Braithwaite,* 379 F.2d 594, 600 n.4, 154 USPQ 29, 34 n.4 (CCPA 1967); *In re Longi,* 759 F.2d 887, 892-93, 225 USPQ 645, 648 (Fed. Cir. 1985); *In re Braat,* 937 F.2d 589, 592-93, 19 USPQ2d 1289, 1292 (Fed. Cir. 1991).

The examiner finds that claims 1-7 of Blohowiak teach all the limitations of the rejected claims except for the inclusion of pigments (see claims 1, 3, 4, 7, 8, 17 and 25) and the protection from a space environment (see claims 24 and 25) (Answer, page 5). The examiner thus applies Philipp for the teaching that customary additives to a Zr-Si sol-gel coating include pigments to provide color (*id.*). With regard to the property of protection from a space environment, the examiner concludes that this would have been obvious since the process of coating and sol composition overlap in amounts and components and

thus one of ordinary skill in this art would have expected the product of the reference to be the same as appellants' product (Answer, paragraph bridging pages 5-6).

We agree with the examiner that it would have been *prima facie* obvious to add the customary additives such as pigments, from the teachings of Philipp, to the similar sol-gel composition of Blohowiak to produce a desired color. With respect to exposure to a space environment, we must first note that the claims to this method (claims 24-25) recite that the space environment contains atomic oxygen, ultraviolet radiation, high energy particles, or a combination thereof (see claim 24, underlining added). Accordingly, since the elements of the space environment are recited in the alternative, we must construe claims 24 and 25 as a method for protecting a substrate from an environment which has any of the listed elements, including a normal atmosphere which may include at least atomic oxygen, ultraviolet radiation from the sun, high energy particles, and combinations thereof. *See* *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997)(The examiner applies to the claim language the broadest reasonable interpretation of the words in their ordinary meaning as they would be understood by one of ordinary skill in

the art, taking into account any enlightenment from the specification). Accordingly, in view of our claim construction, we determine that the method of protecting a substrate in a normal atmosphere as disclosed by either Philipp or Blohowiak would have included the method as recited in claims 24-25. Accordingly, we agree with the examiner's conclusion that such a method would have been suggested to one of ordinary skill in this art from the teachings of either Philipp or Blohowiak.

Since the examiner's findings are from claims 1-7 of Blohowiak, our analysis and agreement with the examiner's findings and conclusions of law apply equally to the rejections under section 103(a) and under the judicially created doctrine of obviousness-type double patenting.

Appellants argue that Blohowiak is not a reference against the present application since this application claims CIP (continuation-in-part) status from Blohowiak (Brief, page 7) and "the present application has the same effective filing date for everything that *Blohowiak* teaches or suggests." Reply Brief, page 8. This argument is not well taken since appellants admit that Blohowiak does not include a pigment (Brief, page 7; Reply Brief, page 8). As found by the examiner (Answer, page 11):

> The matter added to the parent of this continuation in part [i.e., this application on appeal] includes the

> addition of the pigment to the sol-gel coating. All of the claims contain the pigment addition limitation, therefore, the appellant is [sic, appellants are] not entitled to the filing date of the parent application [Blohowiak], but is only entitled to the filing date of the application containing the pigment disclosure.

Appellants are only entitled to the effective filing date of the parent application (now issued as Blohowiak) under 35 U.S.C. § 120 if the subject matter now claimed has support under 35 U.S.C. § 112 in the parent application. *See In re Scheiber,* 587 F.2d 59, 62, 199 USPQ 782, 784-85 (CCPA 1978). As discussed above, appellants admit that Blohowiak does not disclose or suggest inclusion of a pigment in the sol-gel coating (Brief, page 7; Reply Brief, page 8).[2] For the foregoing reasons, we agree with the examiner that appellants are not entitled to the effective filing date of Blohowiak and therefore this reference is available as prior art under 35 U.S.C. § 103(a) via 35 U.S.C. § 102(e).

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[2]Claim 24 does not recite inclusion of a pigment in the sol-gel coating. However, this claim does require that the substrate is exposed to a space environment and appellants also admit that this subject matter is not disclosed or suggested by Blohowiak (Brief, page 7; Reply Brief, page 8). Therefore the subject matter recited in claim 24 on appeal is also not entitled to the effective filing date of the parent application (Blohowiak). We note that appellants do not rely on any other applications to establish an effective filing date (i.e., parent applications S.N. 08/742,171, S.N. 08/740,884, S.N. 08/742,170, or provisional application No. 60/068,715).

Appellants argue that for applications filed after May 28, 2000, this § 102(e)/103(a) rejection will not apply under the Patent Act Amendments (Brief, page 7; Reply Brief, page 8). We note that this argument is irrelevant since this application on appeal was filed October 8, 1998.

Appellants argue that a reference cannot be applied both under § 103(a) and for obviousness-type double patenting (Brief, page 6; Reply Brief, page 6). Appellants also argue that obviousness-type double patenting cannot be based on a combination of references (*id.;* Brief, page 8; Reply Brief, page 8). Neither of these arguments is well taken for reasons which follow.

Appellants have failed to provide any evidence or reasoning why a reference which is qualified cannot be applied both under 35 U.S.C. § 103(a)(via 35 U.S.C. § 102(e)) and under the judicially created doctrine of obviousness-type double patenting. *See In re Bartfeld,* 925 F.2d 1450, 17 USPQ2d 1885 (Fed. Cir. 1991), and *The Manual of Patent Examining Procedure,* pp. 800-29 and 800-30, 8th ed., Aug. 2001. Appellants have also failed to present any evidence or reasoning why an obviousness-type double patenting rejection cannot be based on a combination of references. As long as only the claimed subject matter from the

primary conflicting patent is used as evidence, any other prior art evidence may be relied upon to establish *prima facie* obviousness. *See In re Braithwaite,* 379 F.2d at 599-600, 154 USPQ at 33-34.

Appellants also argue that Blohowiak focuses primarily on adhesion promotion and this addition of a pigment to a Blohowiak sol "constitutes a separate and distinctive invention." Brief, page 8. This argument is not persuasive for the reasons noted above, namely that it was well known in this art to add customary additives such as pigments to give a sol a desired color (see Philipp).

Appellants argue that neither Philipp nor Blohowiak teach the specific claimed sol "designed for bonding with a resin" as required by claims 8 and 17 (Brief, page 7). This argument is not well taken since, as noted by appellants and recited in claim 8 on appeal, the organosilane need only be "adapted" for covalently bonding to a resin applied over the coating. This "intended use" does not differentiate the claimed subject matter from the prior art applied since the prior art discloses use of the same organosilanes (e.g., TEOS) as disclosed and claimed by appellants. *See In re Pearson,* 494 F.2d 1399, 1403, 181 USPQ 641, 644 (CCPA 1974).

Finally, appellants argue that obviousness-type double patenting "redresses undue patent term extension" and thus there is no "wrong" to redress here as any patent on the present invention will expire on the same day as Blohowiak (Brief, pages 8-9). This argument is not persuasive. Even assuming *arguendo* that any patent issuing from the present application will expire on the same day as Blohowiak, obviousness-type double patenting also addresses the problem of harassment by multiple assignees, with the subsequent filing of terminal disclaimers attesting to common ownership solving this problem. *See In re Van Ornum,* 686 F.2d 937, 944-948, 214 USPQ 761, 767-770 (CCPA 1982).

For the foregoing reasons and those stated in the Answer, we determine that the examiner has established a *prima facie* case of obviousness in view of the reference evidence under both section 103(a) and the judicially created doctrine of obviousness-type double patenting. Based on the totality of the record, including due consideration of appellants' arguments and the absence of any accepted terminal disclaimer, we determine that the preponderance of evidence weighs most heavily in favor of obviousness. Accordingly, the examiner's rejections are affirmed.

C. Summary

The rejection of claims 1, 3, 4, 7, 8, 17, 24 and 25 under 35 U.S.C. § 103(a) over Philipp is affirmed.

The rejections of claims 1, 3, 7, 8, 17, 24 and 25 under 35 U.S.C. § 103(a) or under the judicially created doctrine of obviousness-type double patenting over claims 1-7 of Blohowiak in view of Philipp are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

Charles F. Warren Administrative Patent Judge	)
Thomas A. Waltz Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
Peter F. Kratz Administrative Patent Judge	)

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APPENDIX

1. A method for applying a protective, pigmented sol-gel coating to a metal or composite surface, comprising the steps of:

a) cleaning and activating the surface;

b) applying an aqueous sol to the surface to form a surface coating, the sol made by mixing about 1 vol% of an $(R\text{-}O)_4\text{-}Zr$ alkoxyzirconium with about 2.0 - 3.7 vol% of TEOS to minimize the portion of organics in the coating and an effective amount of acetic acid as a catalyst for the organosilane and as a hydrolysis rate stabilizer for the alkoxyzirconium in water and with an effective amount of a pigment to provide gloss, color, reflectivity, electrical conductivity, emissivity, or a combination thereof, wherein the alkoxy-zirconium bonds with the surface to orient the alkoxy group away from the surface, R is C_2 to C_5 aliphatic, alicyclic, or aryl;

c) drying the coating at a temperature in the range from ambient to about 250°F to form a sol-gel film on the surface

wherein the molar ratio of pigment to total organometallics is about 1 to 3 parts pigments to 1 part total organometallics.

24. A method for providing protection to a substrate exposed to a space environment that contains atomic oxygen, ultraviolet radiation, high energy particles, or a combination thereof, comprising the step of:

coating the substrate with a sol made by mixing in a suitable carrier:

a) an effective amount of an alkoxyzirconium for covalently bonding to the substrate;

b) an effective amount of an organosilane coupling agent for forming a sol-gel network with the alkoxyzirconium;

c) an organic acid to catalyze the networking of the organosilane to the alkoxyzirconium and to stabilize the rate of hydrolysis of the alkoxyzirconium.